Angoon-Mitchell Bay

Visitor Capacity Analysis

Tongass National Forest

Admiralty Island National Monument

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Introduction

This document serves as the visitor capacity analysis for the Angoon-Mitchell Bay area of the Admiralty Island National Monument. It incorporates current information about recreation use within the analysis area, integrates changes that have occurred since the 1989 Mitchell Bay Outfitter & Guide Environmental Assessment, draws from the latest information on visitor capacity methodologies, and learns from other recent Tongass National Forest visitor capacity analyses. The purpose of this document is to guide allocations of outfitter and guide use under the National Environmental Policy Act (NEPA). Therefore, variables used in this analysis (e.g. season dates and group size) were based on desired conditions and goals described in the 2008 Tongass National Forest Land and Resource Management Plan (Forest Plan) and current guided use information. Capacities were developed in a manner that will facilitate outfitter & guide administration on the Admiralty Island National Monument and results of this analysis will be used to develop the future Angoon-Mitchell Bay Outfitter & Guide NEPA decision.

In addition to informing allocation decisions within the guided and unguided sectors, visitor capacities also provide predictability for local businesses and communities, help assess when recreation demand may warrant an expansion of current supply, and can serve as a trigger for increased, area-specific management attention (Haas, 2002). This analysis will allow resource managers to continue to accommodate an economically viable outfitter and guide industry while maintaining the integrity of forest resources to the benefit of all users and Native people residing within the National Monument (Admiralty National Monument Land Management Act P.L. 101-378, 1990).

Forest Service regulations and policy do not define what is meant by visitor capacity or prescribe a specific method for estimating a numerical capacity. Forest Service outfitting and guiding policy includes the following direction:

> *"When monitoring demonstrates that impacts associated with use may exceed desired conditions, conduct a resource capacity analysis to assess the amount of use and types of activities that may be conducted without detrimental environmental and associated impacts."* (Forest Service Handbook 2709.14 part 53.1f(2)).

Monitoring indicates that existing recreation use levels are generally low and can be accommodated without causing unacceptable impacts to the environment or visitor experience. There is an advantage to addressing visitor capacity proactively, however, before impacts become unacceptable or conflict develops among stakeholders (Haas, 2002; Whitaker et al., 2010).

It is important to note that a visitor capacity, in and of itself, does not imply any management action to limit or encourage use. Capacity is one component of a management prescription that also includes management objectives, desired future conditions, resource condition standards, and a plan for monitoring (Stankey & Manning, 1986). While visitor capacities can inform decisions and commitments, they are not themselves commitments (Whitaker et al., 2010).

Visitor capacities will be reviewed periodically to ensure that assumptions made about recreation use trends and impacts still apply, and to incorporate new science, information, policies, trends, plans and other circumstances of importance. If monitoring indicates that the visitor capacities identified in this analysis are incompatible with the desired social conditions or resource conditions identified in the Tongass National Forest Land and Resource Management Plan (USDA Forest Service, 2008), then capacities will be adjusted accordingly.

Analysis Area

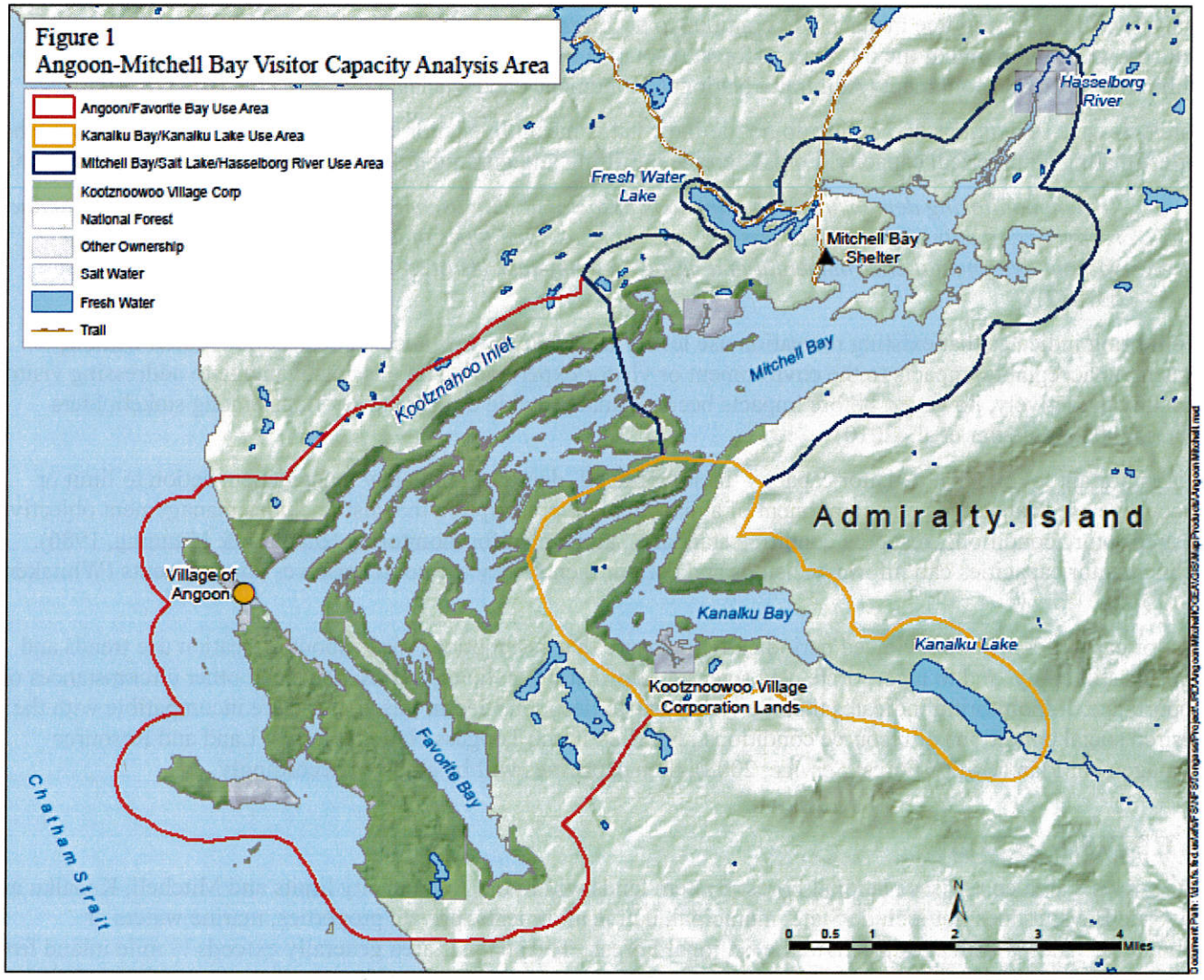
The analysis area comprises National Forest System lands within the Angoon city limits and Mitchell, Kanalku and Favorite Bays; it does not include State, municipal, native allotments, private properties, marine waters or submerged lands within or adjacent to the National Forest. The analysis area generally extends ½ mile inland from the marine mean high water line as well as areas travelled on a day hike from shore such as along trails in Mitchell and Kanalku Bays (Figure 1).

The Alaska National Interest Lands Conservation Act (ANILCA), Section 506 (a)(3)(C) conveyed to Kootznoowoo Incorporated, "All rights, title and interest in land from the mean high tide mark to a point 660-feet inland" of all marine shorelands from Kootznahoo Inlet to the rangeline separating range 68 east and range 69 west, Copper river Base and Meridian, and including those parts of Mitchell, Kanalku and Favorite Bay west of that line. These lands

are commonly referred to as the "corridor lands." Certain rights of these lands were reserved to the United States that generally includes timber, public access, the subsurface estate, and development rights. In addition, these lands are not subject to the provisions of the Wilderness Act (1964). Since the right to public access has been reserved to the United States, these lands have been included in this capacity analysis.

This analysis divides the Mitchell Bay area into three separate use areas that include the 1) Angoon & Favorite Bay Use Area, 2) Mitchell Bay, Salt Lake & Hasselborg River Use Area, and 3) Kanalku Bay & Lake Use Area. These use areas were established due to their ability to accommodate different types of uses and to allow for multiple use locations out of sight and sound of each other.

Figure 1. Angoon-Mitchell Bay Visitor Capacity Analysis Area.



Tongass Land and Resource Management Plan (2008)

The 2008 Tongass Land and Resource Management Plan (Forest Plan) places all of these lands, including the corridor lands, in the National Monument Wilderness Land Use Designation (LUD). In addition, the land surrounding Salt Lake and the Hasselborg River are in the Wild River LUD. The Desired condition for the National Monument Wilderness LUD (2008 Forest Plan, p. 3-8) states:

> *The purposes of the National Monument designation are fulfilled by protecting and learning more about the special resources they contain. Appropriate research is encouraged and supported within the constraints of Wilderness designation, and contributes to both the purposes of the Wilderness National Monuments and improved management of other forest lands. Appropriate interpretive and educational efforts allow the public to better understand the resources of these special areas and to appreciate how these areas fit into the local, regional and even global contest of geology, ecology, and human history.*
>
> *The Wilderness portions of Admiralty Island and Misty Fjords National Monuments are characterized by extensive, unmodified natural environments. Ecological processes and natural conditions are not measurable affected by past or current human uses or activities. Users have the opportunity to experience independence, closeness to nature, solitude and remoteness, and may pursue activities requiring self-reliance, challenge, and risk. Motorized and mechanized use is limited to the minimum needed for the administration of Wilderness. Allow for access to state and private lands, subsistence uses, and public access and other uses to the extent provided by ANILCA. If not specifically provided through an ANILCA exception, the resources within a designated Wilderness shall be administered in accordance with the applicable provisions of the Wilderness Act* (2008 Forest Plan, p. 3-8).

In addition, the Forest Plan goal specific to the Admiralty Island National Monument, Kootznoowoo Wilderness states:

> *Admiralty Island, exclusive of the Mansfield Peninsula, was designated as a National Monument for the scientific purpose of preserving intact a unique coastal island ecosystem. The goal of preservation was to ensure continued opportunities for study of Admiralty Island's ecology and its notable cultural, historical, and wildlife resources, within its relatively unspoiled natural ecosystem. Protection and study of Tlingit cultural resources, other historical resources, and brown bear and bald eagle populations are specifically directed.* (2008 Forest Plan, p. 3-7).

The National Monument Wilderness LUD provides direction through standards and guidelines on how to manage recreation uses within the area. The area is to be managed according to the Primitive Recreation Opportunity Spectrum (ROS) classification. ROS is a recreation resource management classification system that is used to identify, quantify and describe the types of recreation settings that the Tongass National Forest provides. The ROS system portrays the combination of activities, settings, and experience expectations along a continuum that range from highly modified to primitive environments. The Primitive ROS class standards and guidelines are, in part, the basis for establishing the capacity in this analysis (2008 Forest Plan, p. I-1).

The Wild River LUD encompasses 24 square miles of the Hasselborg River and Lakes. This area is proposed as a Wild River segment, but has not yet been designated by Congress. The Forest Plan prescribes management standards and guideline for activities that are consistent with a Congressional Wild River status so as to not preclude future designation. The Desired Condition for the Wild River LUD states:

> *Wild Rivers and river segments are in a natural, free-flowing, and undisturbed condition. Ecological processes and changes predominate. The outstandingly remarkable values for which the river was designated remain outstanding and remarkable. Recreation users have the opportunity for primitive and semi-primitive experiences, solitude, and remoteness in a natural setting. Interactions between users are infrequent, and evidence from human activities is minimal. Facilities and structures are rustic in appearance and promote primitive recreation and tourism experiences.* (2008 Forest Plan, p. 3-74)

Wilderness Act

The Wilderness Act of 1964 establishes standards that must be met when determining the allocation for commercial use in designated wilderness. The law mandates the preservation of wilderness character and that wilderness character must be upheld for any uses for which wilderness is administered. The legal definition of wilderness defines hallmark qualities of wilderness: natural, undeveloped, untrammeled, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and other features of value. The law also checks unwilding agents, prohibiting commercial enterprise with a conditional and optional allowance for limited commercial services.

Commercial use can only be authorized to the extent that it does not impair wilderness character. This analysis establishes the social experience as the limiting factor: this means that Outstanding Opportunities for Solitude is the most sensitive indicator for wilderness character and that protecting it should ensure that the other qualities fare well.

The Wilderness Act authorizes in Section 4(d)(6) an optional and conditional allowance for commercial services "to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas." Visitor capacity and commercial allocation can be framed quantitatively (how many), spatially (where) and temporally (when); these parameters must be applied to ensure that any commercial authorizations only occur "to the extent necessary" for management of the Kootznoowoo Wilderness.

A Wilderness Commercial Needs Assessment for Kootznoowoo Wilderness was created in 2013 that documented the role of commercial tourism operators in providing access and an improved experience for visitors to Admiralty Island. From this expressed need, the Angoon-Mitchell Bay Visitor Capacity Analysis will establish overall visitor capacity for this more specific area. These capacity numbers for recreation use locations within Use Areas are created by applying Recreation Opportunity Spectrum (ROS) class recommendations filtered through the "extent necessary" framework of Wilderness. For the future Environmental Assessment (EA) decision, this "extent necessary" analysis along with public input will take into account the relationship between management goals, resource concerns, historic commercial use levels and capacity determination.

Throughout this "extent necessary" process, the unique purposes that created the Kootznoowoo Wilderness will be used to create appropriate visitor use capacities and any commercial use allocations. While the EA will eventually determine the maximum levels of visitor use, actual allocations may be limited through the prospectus competitive bid process and permit authorizations including site-specific stipulations. Additional quantitative, spatial and temporal considerations could include prohibiting commercial use in areas popular for local or subsistence use, limiting commercial numbers during times of high local use such as holidays or opening days of hunting/fishing seasons and further limiting commercial allocation numbers should such use impact wilderness character before maximum allocation levels are reached.

Subsistence

The Mitchell Bay area is highly valued by the community of Angoon for its subsistence resource values. ANILCA Title VIII, Section 804 provides the residents of Alaska living in a rural community "priority" or preference for the taking of fish and wildlife resources. The Forest Plan goal for subsistence resources is to "provide for the continuation of subsistence uses and resources by all rural Alaska residents." Therefore, impacts to subsistence users will be considered when determining recreation carrying capacity for the area and allocating commercial use through the Angoon-Mitchell Bay Outfitter and Guide NEPA.

Scope of Analysis

The focus of this analysis is on non-motorized land-based activities that originate from the marine shoreline and Hasselborg River. Recreationists traveling by floatplane, boat (e.g., sightseeing, fishing) or anchored on the saltwater who do not set foot on the National Forest are not considered in the visitor capacity figures.

Visitor Capacity Methodology

There is no established methodology in Forest Service policy for developing numerical visitor capacities (Cole & Carlson 2010). There is some level of uncertainty in describing and analyzing recreational use. Due to conditions varying from weather to wildlife sightings to the state of financial markets, the location, type, and amount of recreational use in any area changes frequently which makes calculating capacity difficult. Different Forest Service districts have used different approaches to setting visitor capacity and allocating between guided and unguided visitors, each district determines what fits best for their area.

Visitor Capacity Definition

This analysis defines **visitor capacity** as the number of recreation users that can be accommodated in a given area without impairing the natural environment or the visitor experience. The capacity definition takes into account ANILCA Section 506(a)(3)(C)(ii) which "insure[s] protection of the resources, and to protect the rights of quiet enjoyment of Kootznoowoo, Inc." Quiet enjoyment is a property owner or tenant's right to possess and use his or her property without disturbance, including by a person with superior title. Capacity analysis considerations of quiet enjoyment only apply to the "corridor lands" titled to Kootznoowoo Incorporated in ANILCA Section 506(a)(3)(A) that still allow for public access. The rights of quiet enjoyment will be considered in any future outfitter and guide allocation decisions, particularly along the shoreline.

It is important to remember that setting visitor capacity is an "***administrative decision*** about a ***reasonable number*** of recreation opportunities to achieve the management goals for an area." (Whittaker et al., 2010).

Types of Visitor Capacity

In the past, multiple capacities were developed based on physical, facility, ecological, and social resources. Current thinking suggests that managers take a more holistic approach to developing a numerical visitor capacity (Cole & Carlson, 2010). Visitor capacity has both environmental and social dimensions. Visitor use can affect biophysical resources such as soils, vegetation, water, and wildlife, and it can degrade the quality of visitor experiences through crowding, conflicting uses, or aesthetic effects on the environment (Whittaker et al., 2010). Unfortunately, there is a lack of baseline information about both the natural environment in and around recreational use sites and the environmental impacts of recreational use in the analysis area. Even if additional information were available, scientists agree that the relationship between visitor use and impacts is often weak (Haas, 2007) and poorly understood. Integrating resource and social information into visitor capacity decision-making has always been a challenge for managers and researchers (Newman et al., 2001).

One way that managers can address these challenges is by identifying which resources are most likely to be at risk with high levels of visitor use (Cole & Carlson, 2010). For this analysis with "corridor lands" managed as Primitive ROS, the visitor experience for Primitive ROS class-type activities and Outstanding Opportunities for Solitude in Wilderness have been determined to be the limiting factors to determine the appropriate visitor capacity levels in the analysis area. This is because the visitors' experiences suffer from crowding before natural resources suffer obvious impacts. Other resource values such as subsistence, property rights, quiet enjoyment, archaeological, and fish and wildlife resources will be factors that could further limit future outfitter and guide use allocations. These types of site-specific decisions will be made in the upcoming Angoon-Mitchell Bay Outfitter & Guide NEPA.

Calculating Angoon-Mitchell Bay Visitor Capacity

The Admiralty Island National Monument staff chose a methodology that is **simple** in concept and is **repeatable** to facilitate future capacity updates as needed. The methodology is the same as employed in the recently updated Shoreline II Visitor Capacity Analysis (2014). A service day is defined as "a day or any part of a day on National Forest System lands for which an outfitter or guide provides services to a client" (FSH 2709.14 part 53.1e).

The formula: Visitor Capacity = # of capacity locations x # of days in season x group size .

Capacity Locations

These are defined as locations used to calculate visitor capacities and were identified based on information gathered on current recreational use patterns. The following describes the process used to determine the number of Capacity Locations within each Use Area.

Step 1. A dataset was compiled of known recreation use sites within the analysis area from the following sources:

a. Tongass Outfitter and Guide Database for all known locations used by guides within the analysis area
b. Data gathering and scoping for the Shoreline II EIS.
c. Outfitter/guides were asked at annual meetings and information worksheet mailings.
d. The general public was queried using public meetings, information worksheets, newspaper advertisements, radio interviews, and in-person contacts in the field.
e. Forest Service staff was asked at district Inter-Disciplinary Team (IDT) meetings and informal conversations.
f. Field monitoring was conducted by Forest Service staff, contractors, partners, and volunteers during the summer seasons in 2011, 2012, and 2013.
g. Forest Service recreation site databases (INFRA Wild and Recreation Use Site GIS layer).

Step 2. Recreation use sites were grouped together and considered a single location to eliminate double counting of sites that were identified in more than one of the processes listed above. Sites were also grouped together to integrate Recreation Opportunity Spectrum (ROS) social experience standards identified in the Forest Plan Land Use Designations (LUD). Grouping was done using the following criteria:

a. Sites within sight or sound of each other.

Seasons

This variable was defined as the number of calendar days in each season. Dates of each season were aligned to match with the proposed Shoreline II Outfitter/Guide EIS, which proposes to allocate commercial use to areas immediately adjacent to Angoon-Mitchell Bay. Seasons were defined as follows:

1. **Spring: March 15 to May 20.**
2. **Summer: May 21 to September 14.**
3. **Fall: September 15 to December 31.**
4. **Winter: January 1 to March 14.**

Average Group Size

This was determined during public meetings held in Angoon and government-to-government consultation with the Angoon Community Association. Limiting the maximum group size to something less than the Forest Plan standard was desired to ensure subsistence opportunities and quiet enjoyment. It was determined that a **group size of seven** was appropriate for calculating the capacity of the area. This group size of six clients is slightly less than the size of groups reported in adjacent use areas through outfitter and guide actual use reporting (summer average group size in adjacent areas is 6.8).

Considerations and Assumptions

The decision to include known recreation use locations in the analysis, versus all accessible acreage, is consistent with the definition of visitor capacity as a "reasonable use level" for Forest Plan standards and guidelines. The decision is based on the assumption that certain locations are attractive to visitors because of the types of recreation opportunities available (e.g. salmon streams for fishing, hiking trails, camping locations, and public use cabins),

ease of access, and unique scenic qualities. Portions of the Angoon-Mitchell Bay area are inaccessible and/or less desirable for recreational use, which tends to be concentrated over time (e.g. during a particular hunting or fishing season) and space, rather than evenly distributed.

This analysis is based on the assumption that recreation activities and impacts will continue to be concentrated in areas where access is feasible and desirable recreational opportunities exist (e.g. fishing and hunting). A calculation of visitor capacity based on overall acreage of the Use Area may exceed the "reasonable use level" that can be accommodated without unacceptable impacts to resources, wilderness character, and visitor experiences in the areas of actual use. It is important to note that when this capacity analysis is revisited, additional monitoring information will be available and new capacity locations may be included or excluded based on changes in guided and unguided use and impacts, and Forest Service policies.

For each Use Area, the number of Capacity Locations was multiplied by the number of days in each season to calculate visitor capacity in groups. In order to calculate visitor capacity in number of visitor service days, which is the unit used in outfitter and guide permit administration, the capacity expressed as the number of groups was multiplied by the maximum group size of seven.

The decision to use desired guided group size was based on the following considerations and assumptions:

- The group size was established based on information gathered in Step 1 of Capacity Locations and outreach efforts that included the community of Angoon.
- The groups size of seven aligns with the communities desire to have a small, vibrant tourism economy and the Forest Plan Primitive ROS standards and guidelines.
- A group size of seven aligns with capacity of small charter 'six-pack' vessels and floatplanes.
- Similar types of guided and unguided activities occur in many areas. Guided and unguided visitors are drawn to similar areas for similar experiences and unguided group sizes are determined by the type of activity and experience being sought by the visitor.

The visitor capacity calculation is based on the conservative assumption that only one group can be accommodated at each Capacity Location each day during the season. In reality, a location may be able to accommodate several groups in one day without negative impacts to visitor experience. For example, a group may spend two hours hiking a trail in the morning and then depart, and other groups may arrive to hike the trail throughout the remainder of the same day. Conversely, the visitor capacity calculation is also based on the assumption that each location can be used each day of the spring, summer, fall, and winter seasons. In reality, many locations are not used regularly; factors such as weather, snow cover, and availability of desired recreation opportunities (e.g., fish runs) influence the amount of use that occurs, or does not occur, in a particular location each day. As a result, a balance is created by including both liberal and conservative assumptions in the visitor capacity calculations. The formula described results in a ***reasonable*** number of people that can be accommodated in a given Use Area and season, without detriment to the resources or visitor experience.

Angoon-Mitchell Bay Visitor Capacities

Angoon / Favorite Bay Use Area

Season	Dates	Calendar Days	# Capacity Locations	Group Size	Service Days
Spring	March 15 – May 20	67	2	7	938
Summer	May 21 – Sept 14	117	2	7	1,638
Fall	Sept 15 – Dec 31	108	2	7	1,512
Winter	Jan 1 – March 14	73	2	7	1,022

Mitchell Bay / Salt Lake / Hasselborg River Use Area

Season	Dates	Calendar Days	# Capacity Locations	Group Size	Service Days
Spring	March 15 – May 20	67	2	7	938
Summer	May 21 – Sept 14	117	2	7	1,638
Fall	Sept 15 – Dec 31	108	2	7	1,512
Winter	Jan 1 – March 14	73	2	7	1,022

Kanalku Bay / Kanalku Lake Use Area

Season	Dates	Calendar Days	# Capacity Locations	Group Size	Service Days
Spring	March 15 – May 20	67	2	7	938
Summer	May 21 – Sept 14	117	2	7	1,638
Fall	Sept 15 – Dec 31	108	2	7	1,512
Winter	Jan 1 – March 14	73	2	7	1,022

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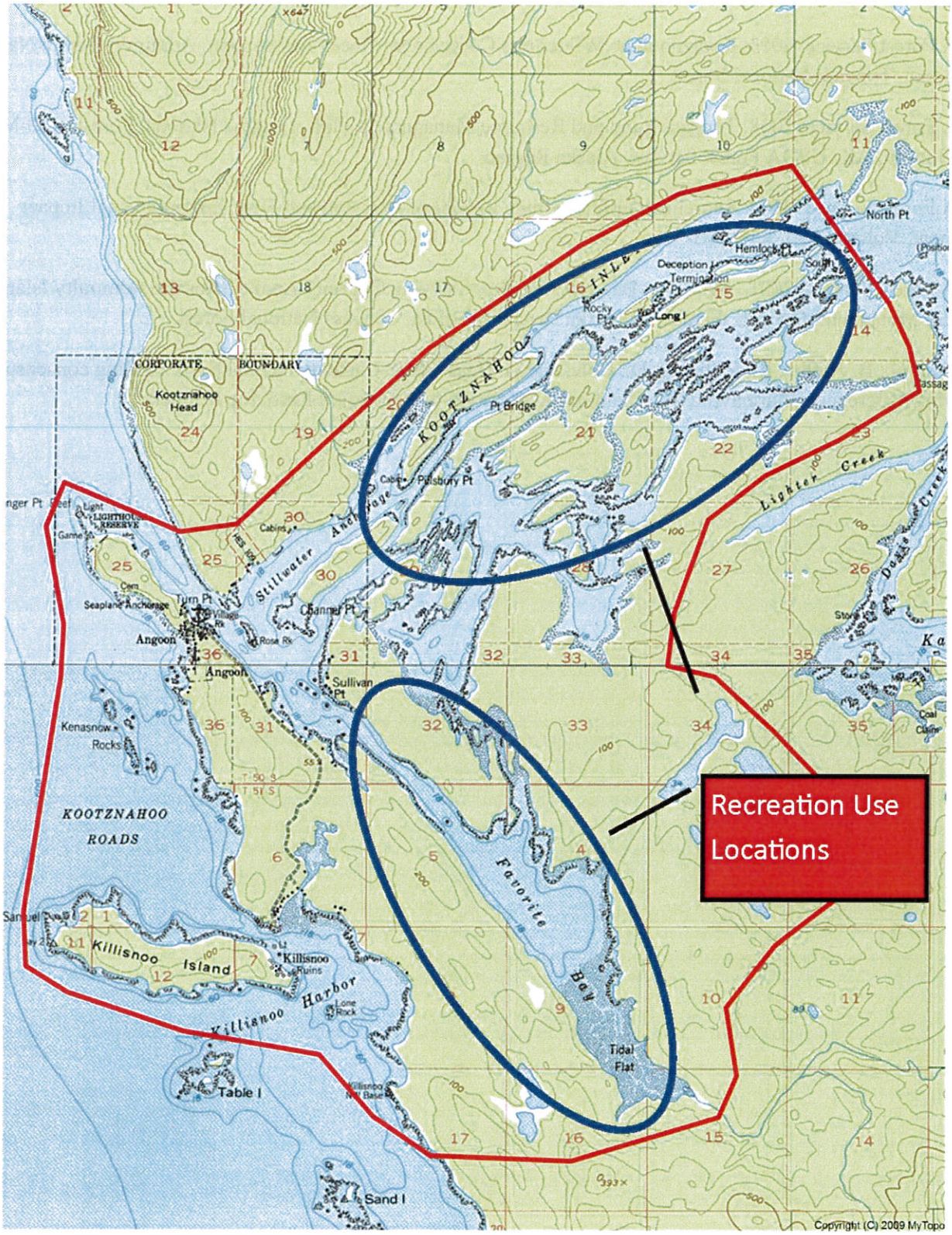
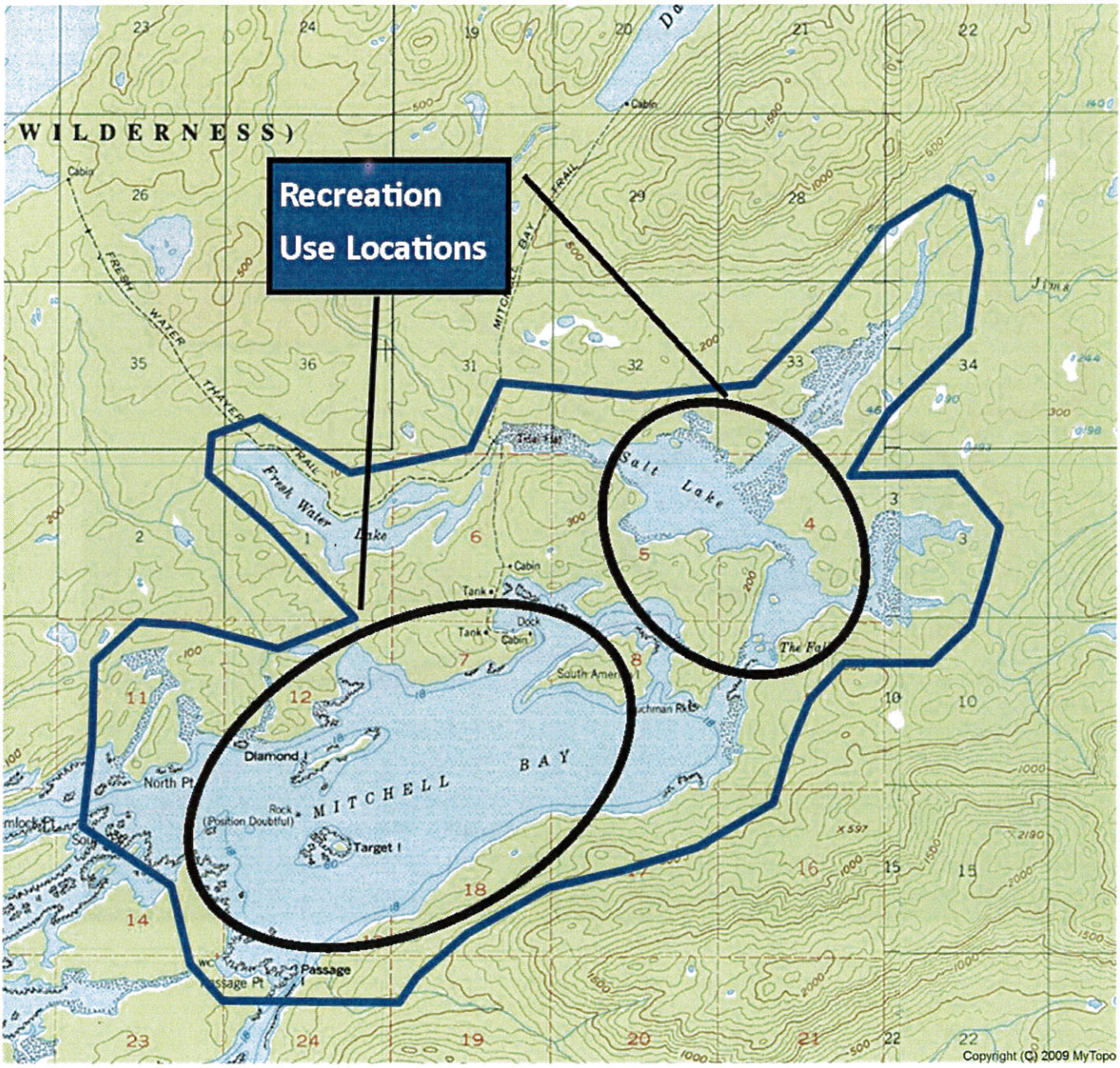
Appendix A. Capacity Location Maps

Angoon / Favorite Bay Use Area



Mitchell Bay / Salt Lake / Hasselborg Use Area



Kanalku Bay / Kanalku Lake Use Area